

Rohan Computing

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DEC VT100
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NEWS IN BRIEF**Univac ousts ICL on buses**

UNIVAC has won £3.6 million worth of business at the expense of ICL from NBC Computer Services, the organisation that handles DP for the State-owned Northern Bus Company. NBC is replacing seven ICL 1000 machines with Univac kit that includes three 1100/60 miniframes to be installed at NBC centres in Preston, Birmingham and Roigate, Surrey.

Also on order are about 30 Univac V77/800 minicomputers for local processing at bus operators.

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DIGITAL Equipment is considering investing \$35 million (£7.5 million) to establish a minicomputer manufacturing plant in Singapore.

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THE COMMERCIAL potential for Oracle, the Independent Broadcasting Authority's teletext service, is to be investigated by AVS Insetex, the London-based videodata consultants and information providers.

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APPLE Computer's application for an injunction to restrain ITT Consumer Products (UK) from allegedly infringing its copyright has been delayed until after October 1.

Expert system to help with North Sea oil

ARTIFICIAL intelligence is to be used to smooth the operation of North Sea oil rigs, under a development project at Edinburgh University sponsored by BP.

Staff at Edinburgh's Machine Intelligence Research Unit are developing a system — based on a Digital Equipment PDP 11/34 and written in Pascal — which

will help oil engineers diagnose the causes of automatic shutdowns on oil platforms, saving large sums of money.

An expert system called AL/X is being developed, based on the ideas in Mycin, which gives medical diagnoses, and Prospex, which assists with searching for minerals.

Workers from Edinburgh

have been interviewing BP engineers and compiling a "knowledge base" about the operation of oil platforms which is expected to consist eventually of several hundred rules and should be working by 1981.

Mishaps on a rig can trigger an automatic shutdown in a number of different ways, and when this happens staff have an

immediate problem in trying to work out what went wrong and how production can be started up again safely. Even short delays can cost millions of pounds in lost output.

When in operation, a minicomputer on the rig will ask staff a series of questions about the current state of the equipment, and from the answers and the rules it has been given previously will work out a probable diagnosis of the fault.

The operator can if he wishes divert the course of the computer's questioning or ask it to display the chain of reasoning that has led it to reach a particular conclusion.

EEC bid to harmonise data nets

PROPOSALS for harmonising the future of Immos as Computer Weekly went to press, with the Department of Industry confirming and STC denying that the European microelectronics industry, previewed last week (CW, July 17) have been made by the EEC Commission. It urges the Council of Ministers to accept and begin implementation of all three proposals by the end of the year.

It wants harmonisation of policies within the EEC standards body so as to ensure European standard VDU for public networks in the Community, and a liaison committee with representatives from the Commission and the PTTs to oversee the work.

It also wants an open market for PTT tenders within the Community, to ensure as a first step that at least 10% of network orders are placed in other EC countries.

DELAYs of up to two years on the supply of leased lines and bad communications with customers were two of the criticisms accepted by British Telecom when a team led by marketing director Gordon Pocock met a delegation from the National Computing Centre, headed by director David Fairbairn, in March.

Last Thursday after Wednesday's inconclusive Cabinet meeting, Callaghan told the Premier in the House that the government should "stop dithering" about the decision.

British Telecom offered explanations for its shortcomings and discussed its plans to overcome them. Leased lines had been delayed first by financial constraints during the 1975 recession; then by excess demand when call charges had been put up without matching increases on leased line charges, and finally by industrial action.

Meanwhile, IBM has denied reports that it is offering to site a manufacturing plant in the UK in view of the PAYE contract (CW, July 10), adding that it is not seeking a location in the EEC for its general business group factory.

On reports that IBM might be

prepared to adopt a loss leader approach to the PAYE contract, cutting prices to win the order, STC said: "It is not and never has been our practice to engage in loss loading."

Honeywell, which has been relatively quiet until now

compared with some of the other contenders in the PAYE contract arena, made its mark last week in the form of letters to The Times and Financial Times from the chairman of Honeywell UK, Ralphi Price, asking the case for open tendering.

THE failure by the Cabinet last week to decide on whether the huge Inland Revenue PAYE contract should go to open tender, could lead to independent consultants being called in to advise the relevant ministers on the decision.

A spokesman for the Central Computer and Telecommunications Agency said that no decision had been made yet on bringing in a consultancy while a spokeswoman for the Prime Minister said that she had "no idea" when the Cabinet would meet next to discuss the matter.

The PAYE controversy has now reached the level of direct exchanges between the Prime Minister and Opposition leader James Callaghan, on the floor of the Commons.

Last Thursday after Wednesday's inconclusive Cabinet meeting, Callaghan told the Premier in the House that the government should "stop dithering" about the decision.

She retorted: "You will not succeed in hustling me. This matter is still being considered. There are many computer firms here. We have to get the right computer for the job."

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On reports that IBM might be

'One-stop' supplies for word processing

their own inquiries, and several enhancements are planned in the next release of the software. Among these will be facilities for online updating of CAFS files, and an on-demand report generator.

CAFS tends to be regarded as a system designed for complete database searches for every query. This of course would be absurdly inefficient, and in fact the approach is to strike the right balance between the number of separate CAFS files established and the time it takes to scan.

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ITC (Computing Supplies) Ltd.

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EEC bid to harmonise data nets

PROPOSALS for harmonisation of planned national data networks, the creation of an EEC-wide purchasing policy for PTTs, and support for the European microelectronics industry, previewed last week (CW, July 17) have been made by the EEC Commission. It urges the Council of Ministers to accept and begin implementation of all three proposals by the end of the year.

It wants harmonised policies within the CCITT standard body so as to ensure European standard VDU for public networks in the Community, and a liaison committee with representatives from the Commission and the PTTs to oversee the work.

The National Enterprise Board has completed its third review of Inmos, and Industry Minister Sir Keith Joseph had been expected to decide this week whether to make a second £25 million investment in the national chip company. STC's possible interest could delay that decision.

It also wants harmonised

standards

for

data

nets

and

communications

systems

and

services

and

data

net

work

and

data

net</

Downtime
by Chad

That sinking feeling

COMPUTERS to blame again. It has been suggested that it was a computer error that led to the tanker Energy Concentration being unloaded wrongly and sinking while peacefully berthed in Rotterdam harbour. They emptied the middle tanks before the fore and aft ones, the middle of the ship bent up, and snap!

There is something magnificent about advanced technology that can produce something that will just destroy itself spontaneously with so little performance. One imagines that for a ship to be lost it has to be pounding round Cape Horn in a Force 12 with rocks on one side and icebergs on the other. To sink to the bottom in the safety of a harbour is ignominious indeed.

I am so impressed by the refined attitude of those in authority towards formal qualifications for the blinkeyes to whom they entrust these multi-million-pound contraptions. You and I, brought up on our island seafaring heritage, imagine that to achieve such responsibility, a sailor has to spend years before the man on a gruelling apprenticeship, absorbing all kinds of arcane skills and lore. Other countries are more enlightened, of course; what are the beaches of Europe compared to the need for seamen and shipowners to do their own thing?

Before I dive into Phister's newest supplement and give you a sample and some reflections, let me list the subjects he does not cover in any thorough manner, but which I believe would be a worthy contribution to our literature. Perhaps such a list can inspire some budding writer and know-how organiser — and here she does not have to be American!

- * A handbook on maintainability, techniques and their costs and effects.
- * A handbook on testing techniques and costs and effects.
- * A handbook on documentation.

FOCUS

Remember the auditor...

WHEN the accounting profession speaks on computing problems, the natural tendency of the DP industry is to make a dive for the door, or at least try looking the other way. But if anyone should still doubt the arrival of the micro, then a visit to the first London Computer Show would have been rewarding. Trade was brisk and there did not appear to be DPM or audit in sight. Sales claims

it seems, have to be in direct proportion to the size of equipment. The smaller the unit, the more persuasive the selling message.

Users like to get value for money, and a micro does not come bulk-sized. Maybe the sales team should try selling their wares gift-wrapped, rather than in open boxes.

One theme of the fair was particularly audible, with many micros featuring their own individual tunes. Introducing a musical peripheral to the financial accountant, however, is less than convincing. Back, digital Mozart, or synthesised Stravinsky — would not necessarily be welcome, even if they have to lead the DP team for guidance.

At least the DP professionals are exempt from the current accountancy tribulations. Many accounting firms have specialist audit teams more or less trained in the technology and techniques of large-scale computing systems — even if they have to lead the DP team for guidance.

But leading of the micro business user would not be advisable. This user is already probably leading on the world market of the supplier. Any more pressure could bring the whole micro operation head to collagen.

Getting to grips with the micro is becoming an urgent consideration for the auditors.

All companies must submit to

a statutory audit. What chance, therefore, does the auditor have in the face of a user who not only writes his own system and runs it, but subsequently overwrites the program? Auditors as a profession prefer to work in an environment of pesaswords, security locks, restricted access and strict operating procedures, and are certainly far from happy with the prospect of universal microcomputing.

The auditor is called on to express an opinion on the state of the company affairs at the end of each financial year. They might well express an opinion on those competencies which take the micro trail without giving care and consideration to legal requirements, half way through a financial period.

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There is much talk about the redundant DPM. Perhaps one should be assigned to every micro tradesman! At least then, programs would conform to DPM specifications — even if they have to lead the DP team for guidance.

That micro business is booming is confirmed. The only slumps visible were those of the sales teams at the end of the heavy trading session. Certainly little or no attention appeared to be directed towards control, checks and safeguards. That the average micro features do-it-yourself programming (and maintenance) adds even more to the problems of the auditor of financial controllers.

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TEN YEARS AGO...

From Computer Weekly of July 30, 1970

THE first move in a joint ICL/BOAC sales drive had been made to supply a complete computer system to the world's largest airline, the Soviet Union's Aeroflot. BOAC will design the software while ICL will supply the hardware. A contract worth £7.5 million has been signed with Aeroflot, British Steel's Soviet

GILB'S MYTHODOLOGY

Comprehensive guide to industry facts

tion technology: costs and effects.

- * A handbook on all the various system design methods and their measurable attributes (as opposed to a description of how they are carried out).
- * A handbook on input code technology: costs and side-effects.

packaged application software industry growth rate (1976-78) was 38.1% per year. Nice industry to be in. On a chart nearby standard packages sales is taking off like a rocket (from 1972-78) while "custom software" shows little growth by comparison.

We don't hear much about small systems like IBM System 3 but one table shows that there were about 22,000 in use at peak (1975-77), compared to the IBM 370 Series, which had about half that number in service at the same time. IBM worldwide sales and service costs are at about the 38% level for the past 20 years, and their earnings after tax (you guess) between 10% (1960s) and 14% (recently). Phister's explanation for the increase in earnings at IBM is, surprisingly, "IBM's wealth".

The net interest income from their wealth increased more than enough to compensate for a drop in operating income.

In another table we see that according to an IBM survey, upper management spends 24.5% of their time at meetings, 9.8% writing, 13.8% telephoning, 13.1% travelling and 0.1% only as "using equipment". Somewhat I don't see that computer terminal on the top boss's desk yet. Unless it is for (tele)conferencing and text handling.

Mongomery Phister, Jun. Date Processing Technology and Economics. Both volumes combined: Digital Press, 12A Esquire Rd, N. Billerica, MA, USA 01862, \$24.85 paper, \$26.85 hardbound, 0757-78 Supplement alone: \$9.00 from S. M. Publ. Box 3543, Santa Monica CA, USA 90403.

Another table tells us that



Professor Wilkes, pictured in front of part of the Cambridge equipment.

Who's Who in DP pay tribute to Professor Wilkes

THE names of the distinguished international guests who met at St John's College, Cambridge, to mark the retirement of Professor Maurice Wilkes after 35 years as head of the University Computer Laboratory (CW, July 24), may say something about foot-in-the-door marketing policies. Maybe it just represents growth in volume of applications.

One table tells us that IBM:

DOS 360 had 8.9 million statements while OS 360 had only 3.46 million statements. That was a surprise for me. I would have thought DOS was smaller. Not only that, but 88% of DOS modules were modified per release, while only 14% of OS modules were modified.

Another table tells us that

A PRIVATE viewdata system that is Prestel compatible, has seven ports and a 7,000 frame capacity costing £17,000 has been launched by Incoterm, a maker of terminal subsystems used by banks and airlines, which was taken over by Honeywell two years ago.

The system, called Incotel, is based on the Incoterm SPD 20/20 terminal processor unit running the RDE database management and remote data entry software which has been in the field for three years.

It will be marketed jointly with Radio Rentals Contracts, a subsidiary of Thorn-EMI which has already in partnership with ICL developed the Thortel box to enable in-house viewdata services to be run from existing mainframes.

Honeywell also makes television adapted for viewdata and Radio Rentals rents them at £28 a month, which is equivalent to the current rates for a colour television plus a modem from British Telecom.

The system is compatible with Prestel and the editing program offers the additional facilities of insert and remove a character or line and clear screen which is not working on Prestel at present.

Other additional user facilities include "scroll" which automatically displays one frame after another at pre-settable intervals, "overwrite" which enables a frame to be displayed a line at a time on demand, mailbox, message broadcast and 10 levels of access security.

Frames may be given a value

from zero to 99 charge units and user accounts are debited when they access a frame. An early purchaser of the system, Medin Facilities which has a database on Pracet called Scotland Now, plans to offer a closed user group service in Scotland to clients which have indicated an interest in databases of about 400 pages.

Delivery of the first systems is expected in about 12 weeks.

Private viewdata with 7,000 frames

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The three distributors dropped are Camme Computer of Brentwood, Essex, Western of North London, and Data-Typ of Cwmbran, Gwent.

The two new distributors are Rehen Computing of Southam, Warwickshire and Management Central Systems of Moseley.

The F500 will also be used in place of the 11/03 in any electronics funds transfer systems

orders that result from the Counterpoint experiment being carried out in the Norwich area by Bmelaycard in co-operation with several oil companies using Fortronic terminals (CW, June 12).

The F500 is configured around the Motorola 6809, which is upwards compatible with the Motorola 6800 chip used in the Transaction Terminal System, the Fortronic built unit now being sold by ICL to its banking customers (CW, March 13).

The 6800 highlighted by Fortronic is the capability to handle re-entrant code and thus support multiple terminals.

At the moment Fortronic uses the Digital Equipment LSI 11/03 processor as the controller for its

counter terminals being used on

a pilot basis by Barclays Bank

(CW, August 30, 1979) but any future systems will employ the F500 in place of the 11/03.

Apart from a desire to do its own thing in the controller area Fortronic, like many DEC customers, has been put off by long delivery times on much of DEC's kit.

Fortronic also sees sales being

made to schools and to systems

houses addressing the general DP and word processing mar-

kets.

The software side of the

F500 comes with an operating system

that can support Fortran,

Pascal and Basic, and Fortronic itself

can provide software for handling IBM, ICL and Burroughs protocols. Data concentration software can be written by Fortronic itself to suit user needs and data encryption software will be based on the DES chip from Western Digital.

Tally drops three dealers

IN order to provide what Mannequin Tally describes as "proper engineering support" for its products and "better local customer service" the company has dropped three mainline distributors of its serial printer terminals and appointed two new ones.

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Comms box launch by Fortronic

FORTRONIC, the Scottish firm making a name for itself in the bank terminal business, has launched a microprocessor system in a box called the F500 that is being offered to big end users or systems houses as a communications processor for jobs like data encryption, data concentration and protocol conversion handling multiple terminals.

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£200,000 order

COMMUNICATIONS equipment worth over £200,000 has been ordered from Case of Rickmansworth, Herts, by Metal Box for its 40s 900 network. Included are 480/48 microprocessor-controlled modems and an Analysys II network monitoring system.

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IMPORTANT NOTICE FOR DATA TERMINAL USERS

Promising is one thing—delivery is something else!

After successfully distributing a range of VDU's throughout Britain for two years, Volker-Craig has now formed a wholly owned subsidiary in the UK.

Today, Volker-Craig (U.K.) Ltd., is now able to satisfy the increasing demand for the VC400 Data Terminal. New offices and showrooms at Watford, will include extensive stockrooms and

service facilities to enable us to meet delivery requirements in the UK.

All the 400 series terminals have a years' full warranty, and feature detachable keyboard and non-glare screens in various colours. Foreign character sets, serial and parallel peripheral interfaces, are just a few of the numerous options you can choose on all models.

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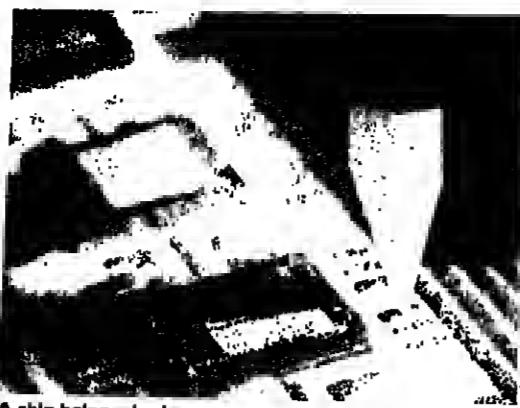
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PAGE SIXfor programmers
and analysts

How micros can make work more satisfying



A chip being wired up.

TWELVE weeks ago we looked at the likely impact of the microprocessor on the job prospects for today's programmers and we found that, far from being a threat, it promised endless expansion in the demand for computer programmers (CW, July 10).

A former colleague now working in the micro field has suggested to us that not only would the micro provide plenty of work, but it would also make the job of the programmer significantly more satisfying and less frustrating.

"Of course if it happened to be

agreed and is thus unlikely to find itself seriously wrong-footed by future developments.

The ISO model has seven levels; the top three levels are associated with the aspects of information processing, and there is a clean break between them and the other four, which perform the functions of message delivery.

These four levels are the transport, the network, the link and the physical levels, the last three being levels one, two and three of the X25 pocket-switching definition, ICL plans to put all four into a new Multi-Function Communications Processor, MFCP, expected shortly.

"The really conscientious people started writing another program or at least got on with the documentation. Most people talked to their colleagues and drank coffee, or read Computer Weekly. Unfortunately there was no Page Six in those days!"

Five years on, things began to improve a little.

"By 1975, one had some kind of online facility. The first half of the process was the same, but once the program was put on to the computer it was written to

grammer's lives easier and more pleasant. Because micros are always interactive, some people have built screen handling into their micro Cobol, and that can save enormous time if you compare it with developing, say, a CICS application.

"CICS is in effect a giant subroutine, with a lot of complex parameters which have to be set by the programmer; our users say that the biggest bottleneck in developing CICS applications is finding enough people who understand CICS. Most shops only have one."

"And you get continuing operational problems with CICS. You have to set up another partition for testing, and even then an error in the program being tested can bring the whole system down."

Things are not much different

for most programmers today, and the large system devoted solely to development did not seem to be the solution either.

"The answer is the microprocessor development machine. Everything is built into the desk, and the only thing you may need to share is a printer — perhaps one to each three development machines, because printers will continue to be comparatively expensive."

"The point is that production software is very different from development software, and the micro makes it possible to be effective and easier to provide on a micro."

"Most of the applications people want to write these days are interactive, so interactive debugging is ideal."

"But surely you can't get IBM Cobol on a micro?"

"No, that's true," he agreed. "IBM Cobol is somewhat in advance of any micro Cobol, but the best micro Cobols are at about the same level as Cobol on IBM's Series 1 and System 34, or the Honeywell Level 6 mini."

"Clearly you can't use a micro development machine for maintenance of existing programs. But there is no reason why you shouldn't use one for new applications, with a compatible subset of IBM Cobol."

"Mike Hopper says that the most of the complexity of the system is because you don't know what the user wants, and he believes programs should be as simple as possible."

"And micros are bringing others which will make pro-

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ICL launches information processing architecture

From front page

agreed and is thus unlikely to find itself seriously wrong-footed by future developments.

The ISO model has seven levels; the top three levels are associated with the aspects of information processing, and there is a clean break between them and the other four, which perform the functions of message delivery.

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to write in facilities for dialogue

take place between programs

running on separate computers

provided that there is a link between the computers.

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for things like bulk trade

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computers, provided the common protocol is implemented at both ends of the link.

Distributed Message Router

routes messages from

terminals to the appropriate

computer.

Networking is to become

standard for JES3, as well as

support for the new disc devices

3375 and 3380. It will also be

possible to store data in card

image form and as print lines.

Also due at the same time is an

extended feature of the

architecture which will allow

cross memory services.

This means that user areas will be able to communicate directly with one another without using shared space, thus decreasing the common area required and allowing more room for data and user programs.

SOFTWARE FILE

User groups' ideas in MVS extensions

IBM is planning Release 2 of its System Product, the umbrella title for the MVS extensions, for the then current release of System Product.

Communications will be upgraded to take advantage of this facility.

The upgrades are being made in response to suggestions from user groups Share and Guide, which have requested such features as JES2 networking, improved spool reliability, the facility to offload spool information and store or tape as well as the capability of a user to add his own exits as required.

Distributed Message Router (DMR) routes messages from terminals to the appropriate computer.

Networking is to become standard for JES3, as well as support for the new disc devices 3375 and 3380. It will also be possible to store data in card image form and as print lines.

Also due at the same time is an extended feature of the architecture which will allow cross memory services. This means that user areas will be able to communicate directly with one another without using shared space, thus decreasing the common area required and allowing more room for data and user programs.

The lockout will occur at the much lower level of dataset, thus allowing a second process-

to access data from the same volume.

At the same time there will be Version 2 Release 4 of the Resource Management Facility, which will support Global Resource Serialisation with additional real time displays.

IBM also announced enhancements to the 303X line (CW, June 18) such as extended addressing, due in December 1981, which will be supported by the current MVS/SP.

Further details on the 3814 Switching Management System, due to replace the 3814 in the third quarter of 1981, show improved management facilities, such as pre-stored configurations (parameters on diskettes) and control of remote consoles from a central point.

Checking structured programs

A PROGRAM tool to check the "shape" of structured code is available from Peter Bell of Deansgate Close, Chester. Called Chartit, the product is written in Cobol to run within 640 bytes on any machine supporting the language, and costs £1,950.

Chartit aims to discipline and control the quality of structured programming. Using date directly from source programs, it prints structure charts up to 90 levels deep and 999 modules wide showing control links between modules.

The product was born in 1977 out of suggestions made to IBM by the Software Security Committee of the IBM user group Share. When IBM failed to respond, committee member Barry Schrager set out to solve the problem himself.

The product aims to provide controlled sharing of data as well as standard data protection. Password control works on group and individual level so that access to data can be controlled by department, terminal, and geographical location.

IBM 'worried' by security rival

The system uses three databases all accessed through VSAM. The first, Logonid, contains one record per authorised user, and the Rule database specifies who under what conditions can access data. The third, Information Storage, holds generalised resource rules and other system data.

According to CGS European marketing manager Zoran Pirjevec, ACF2 avoids the pitfalls of RACF such as needing to key all data, involving excessive I/O, and giving the user access to source code. He sees little threat to RACF or the European Software Company's product Secur.

Pirjevec left a flourishing career with Panasonic to set up CGS's new European HQ. ACF2 costs £13,500 and takes up less space than RACF at about 5 megabytes.

Informatics aims at CICS market with Trans IV

INFORMATICS Inc is making its move into the CICS market with its interactive development system, Trans IV, which has just become fully operational under DOS/VSE with Release 2.

Trans IV is spearheading Informatics' new push as a follow-up to the firm's long-standing flagship, Mark IV, the high-level applications development tool. Although Mark IV is still Informatics' main revenue spinner, making regular appearances in the ICP lists of best sellers, Informatics has also been doing well with Inquiry IV/MS, which has over 70 installations worldwide.

Trans IV should find just as ready a market as Mark IV, since it has the same target audience: programmers. The market where the shortage of CICS expertise makes it necessary to rely on the skills available, like Trans IV, is a huge level playing field for day-to-day testing, debugging and optimisation of applications.

Informatics' Trans IV is based on the Apple II and the TI-99/4A microcomputers. It is available from Systematic International. The company claims that developing in Pascal rather than Basic has resulted in faster program creation times and less memory usage.

Prices for Trans IV range from \$1,200 to \$10,000 depending on the complete system size. At \$4,000,

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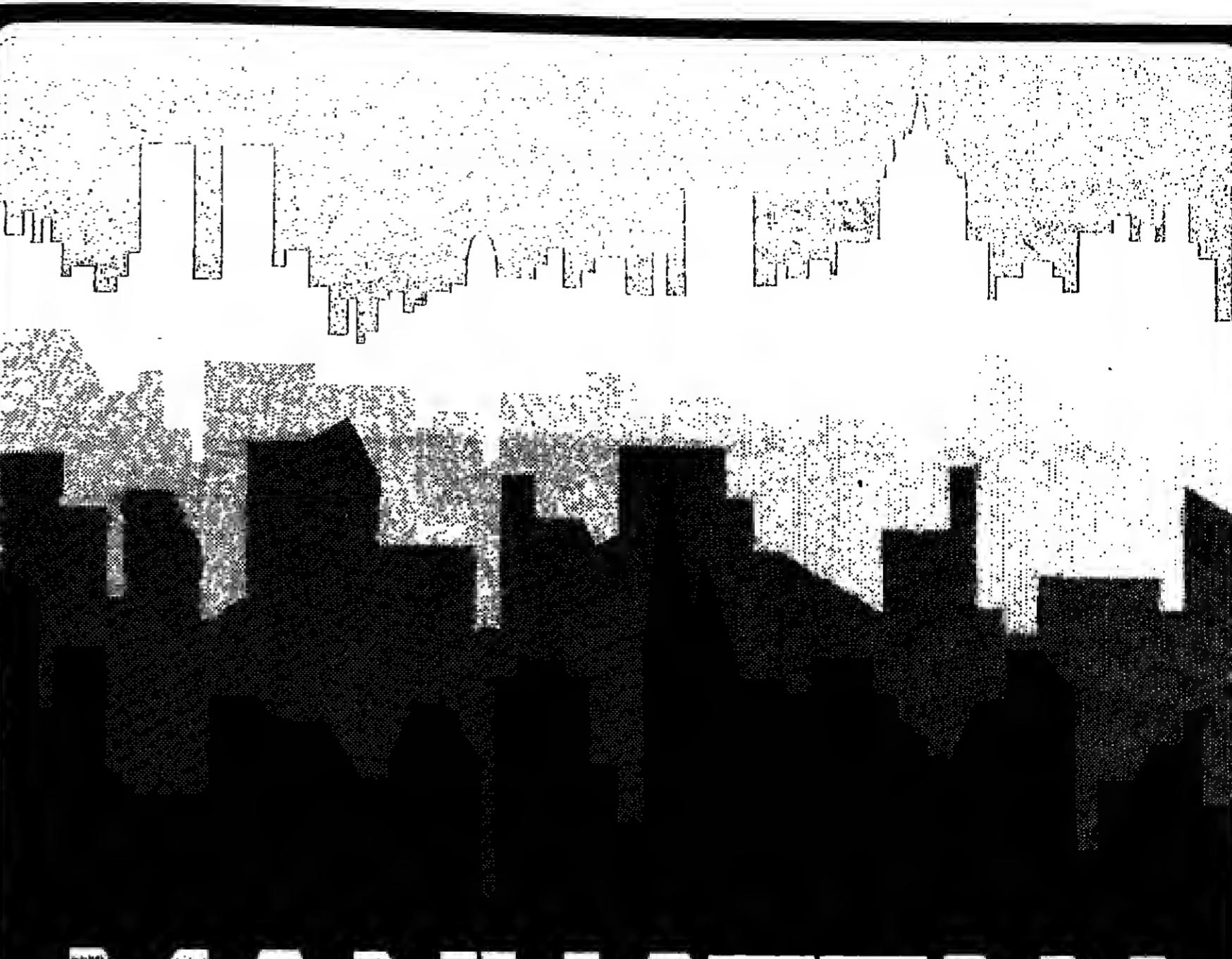
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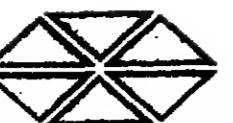
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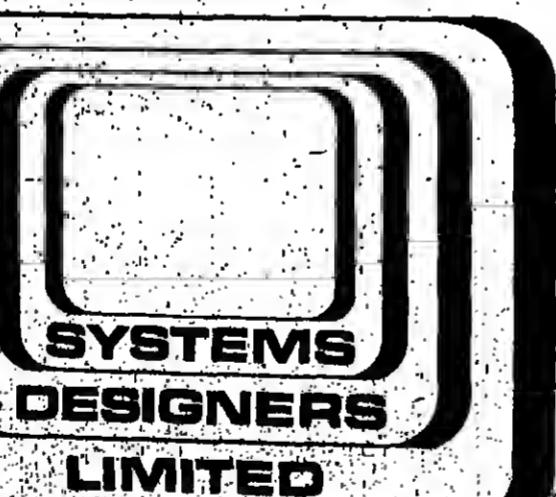
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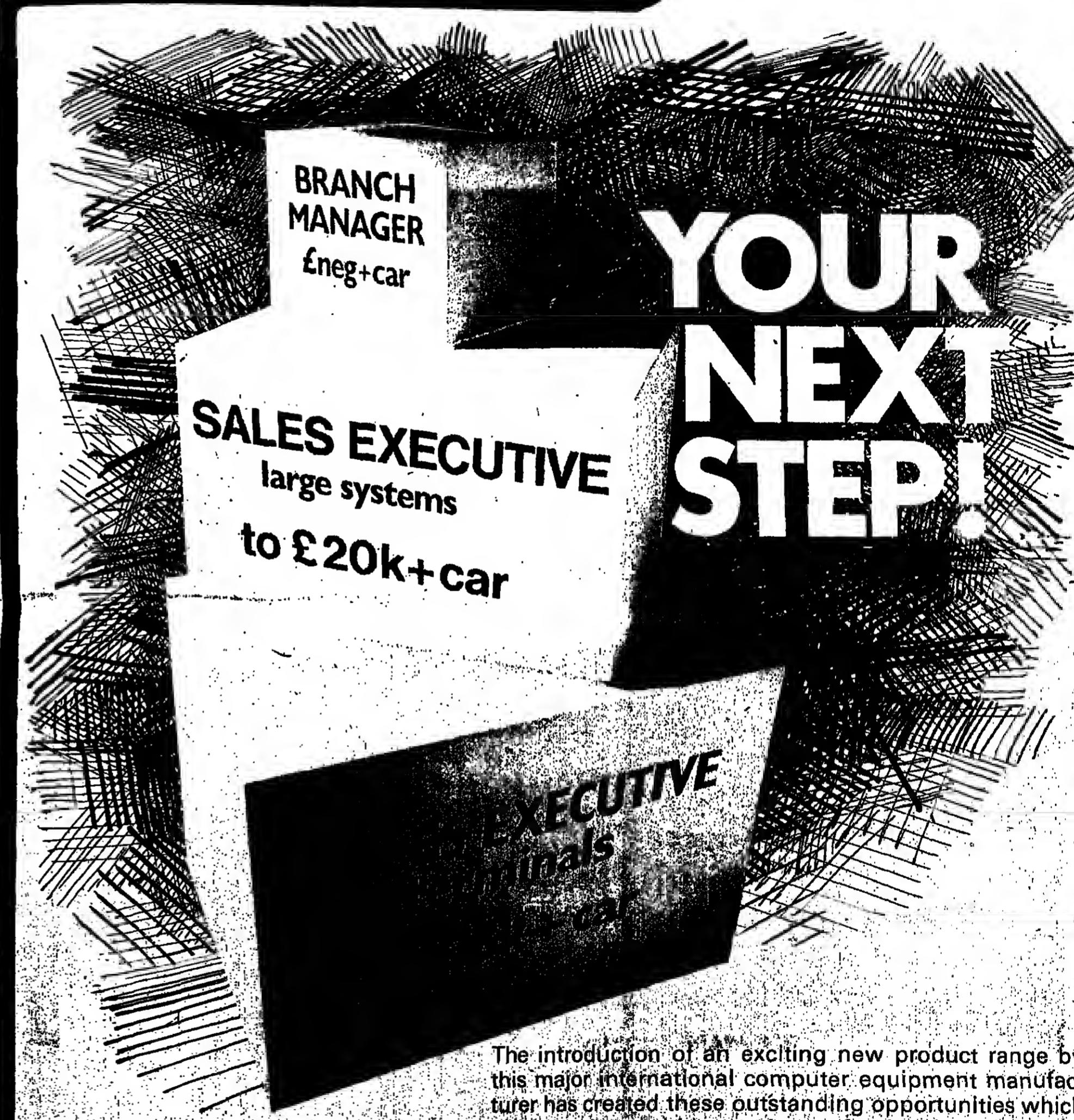
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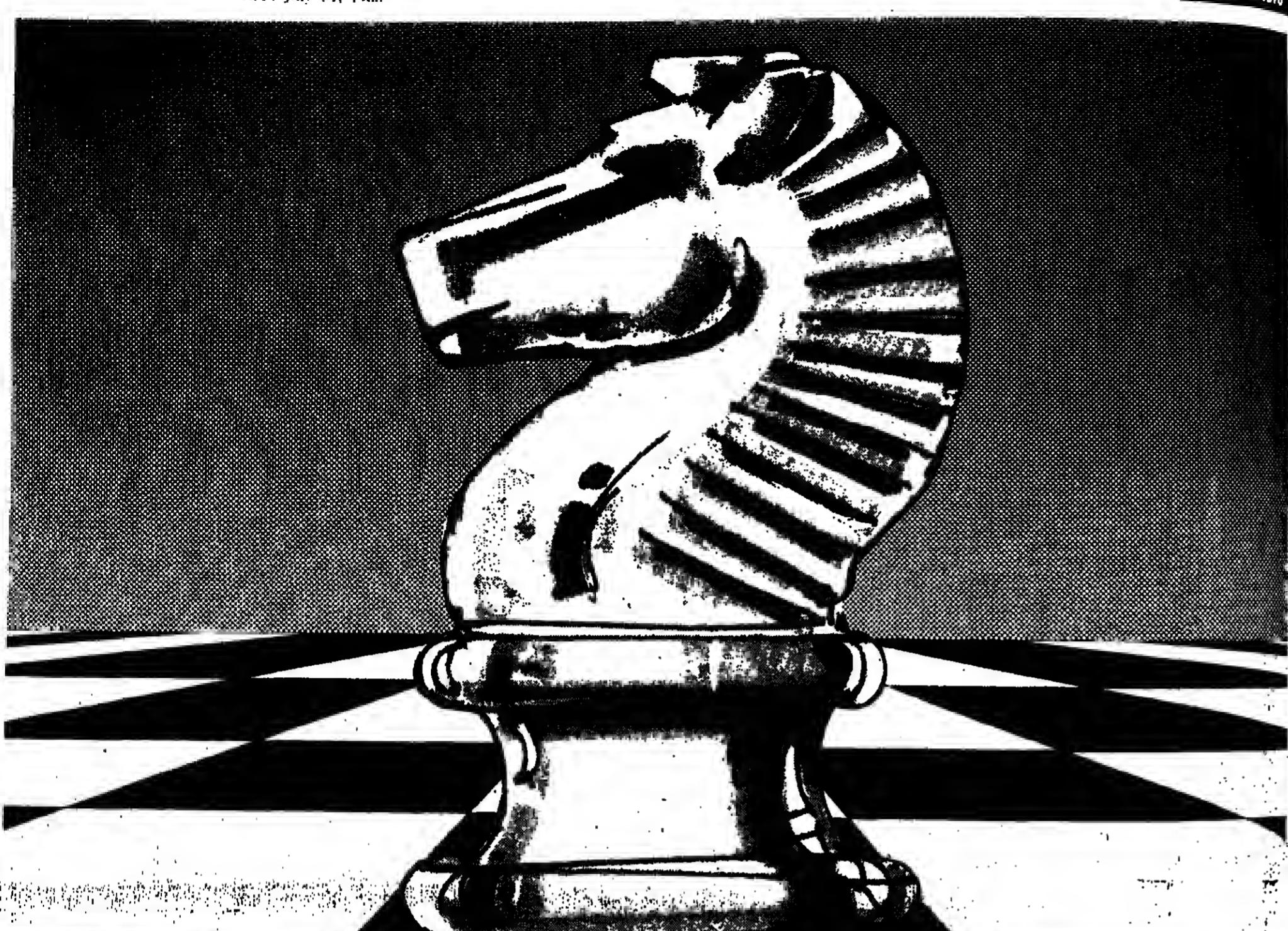
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Interesting demands are creating a number of good experienced positions in our systems and data bank. We have hundreds of vacancies now available for analysts and programmers, particularly those with a proven record of experience in structured programming. Opportunities exist for analysts to work in one of our large data processing units or within the office, and consulting and analytical work is available throughout the UK. Vacancies exist in every county throughout the UK, adding to our ability to offer a wide range of opportunities. To find out more about this exciting new venture, call us today for a free form, and see how quickly we move you forward.

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